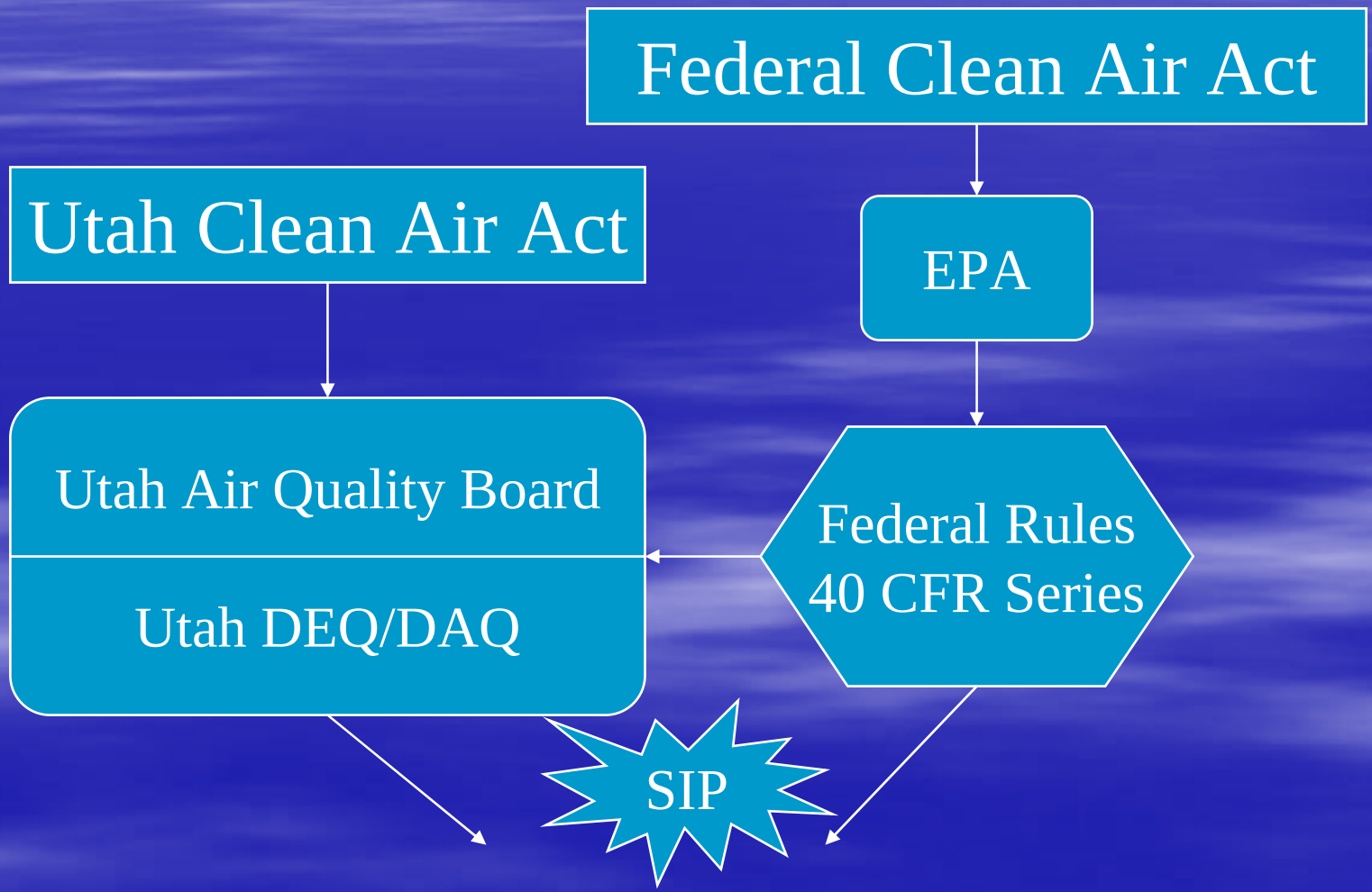
Air Quality Permitting Program

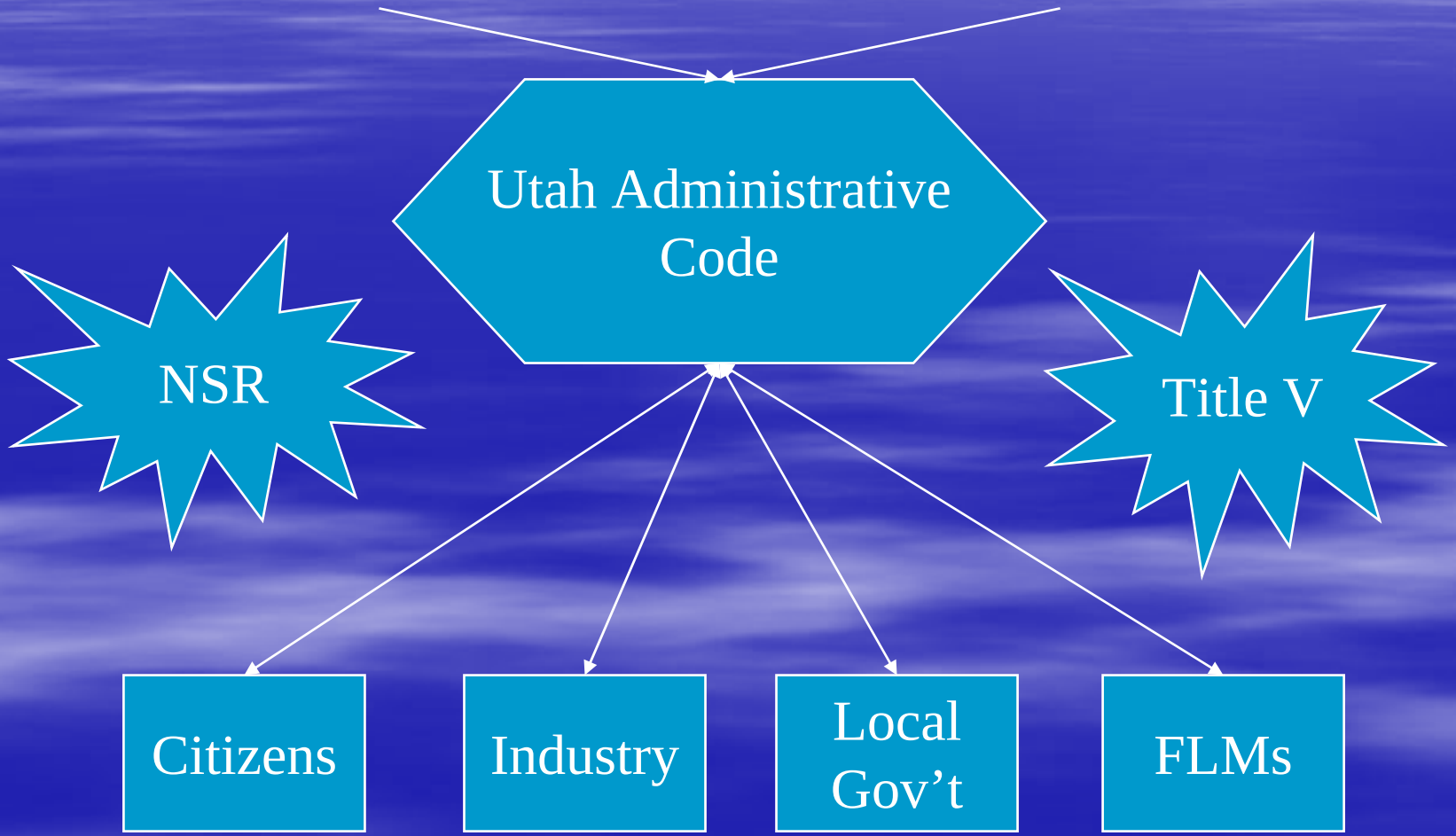
Topics

- Overview of Permitting Program in Utah
- Overview of Best Available Control Technology or BACT

Laws and Rules of Permitting



Laws and Rules of Permitting (cont'd)



Air Permits

- Two types of permits in Utah
  - ✓Approval Orders (AO) – NSR or construction permits (Title I of CAA)
    - PSD
    - Major or Non-Attainment NSR
    - Minor NSR
  - ✓Operating Permits (Title V of CAA)

DAQ Permitting Branch Organization

June 9, 2008

NSR – A Simple Permitting Program

PSD Requirements

- Applies to large sources
  - ✓ > 250 tpy unless one of 27 listed categories – then 100 tpy
- Pre-construction monitoring
  - ✓ Ambient conditions
  - ✓ Meteorology
- Best Available Control Technology (BACT)
- Impact analysis (modeling)

Non-Attainment Program

- States must identify areas not meeting NAAQS
- Required to develop a State Implementation Plan (SIP)
- SIP must demonstrate progress towards attainment of NAAQS
- Stricter permitting requirements

Stricter Permit Requirements

- Applicability levels
- Control Standards (BACT vs LAER)
- Offsets

Minor NSR Program

- Applies to all sources
- Deminimus levels
- BACT required
- Modeling may be required (above threshold)

Approval Orders

- Began in 1969
- Utah Admin Code R307-401
  - ✓ New
  - ✓ Modified
  - ✓ Relocated
- ". . . will or might reasonably be expected to increase . . . or change the effect of . . . air contaminants discharged . . . ."
- Small Source Exemptions

Approval Order - Content

- Identifies pollution control equipment
- Imposes limitations (as appropriate) on:
  - ✓emissions
  - ✓hours of operation
  - ✓throughput
  - ✓fuel used
  - ✓etc.
- Compliance mechanism

Approval Orders

- One source may have several
- Older ones are often very sketchy
- No expiration date
- Public review of process

What an AO Is Not

- A mechanism to control nuisances such as
  - ✓Odors
  - ✓Noise
  - ✓Others
- A zoning mechanism

Annual Program Effort

- 344 Permitting documents in FY08
- 163 Approval Orders issued
- 181 Other misc documents
  - ✓Sales tax exemptions
  - ✓Name changes
  - ✓Emissions banking actions
  - ✓etc

Funding NSR Program

- Total Program Cost is ~ $1.7M
- Charge permittees for direct permit effort ($70/hr)
  - ✓Accounts for approximately $770K per year
- 105 Grant makes up difference

Title V Operating Permit Program

- Consolidate requirements
- Greater certainty for sources
- An enforcement tool
- Five year term
- Public/EPA involvement

Title V Operating Permit Program (Cont'd)

- No new control requirements
- Monitoring, Recordkeeping, and Reporting
- Compliance certification

The Single Enforcement Document

Title V Program Universe

- All major sources
- Acid Rain sources (large utilities)
- NSPS sources (§ 111 CAA)
- HAP sources (§ 112 CAA)
- Area (small) sources - general permits
  (some permanently deferred – others case-by-case)

Key Elements of Title V

- Compliance certification:
  - ✓In application
  - ✓Annually
- "Responsible Official"
- Monitoring, recordkeeping and reporting

Title V Program Effort

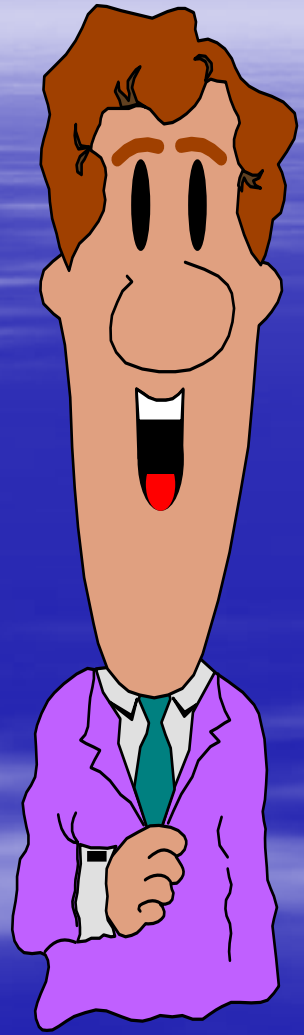
- 138 apps rec'd
  - ✓45 cancelled
  - ✓93 active
- 76 permits issued
- 17 permits remaining
  - ✓SIP conflict (impacts 9 permits)

Title V Program Effort

- 239 renewals/modifications rec'd
  - ✓8 cancelled
- 204 renewals/modifications issued

OPS Fee

- CAA mandates program be self supporting
- Program cost is approx $3.9M per year with 31.5 FTEs (in most div. Sections)
- Simple method (cost ÷ tons of emissions)
  - ✓ Emissions decrease but sources don't – workload remains same but fee increases
- Fee proposed by AQB and then goes to Legislature each year
- Proposed fee for next year is $48.75/ton



Are there any questions?

WHAT IS BACT?

BACT Presentation

- Brief History of BACT
- BACT Process
- Summary

BACT History

- 1972 - Court case spawned PSD and BACT
- 1974 - First regulations containing BACT
- 1977 - Congress defines BACT in the CAA
- 1978 - regulation defining BACT
- Today - Statute and regulations remain largely unchanged

1977 Statutory BACT Definition

- CAA § 169(3) defines BACT:
  - "an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act ... which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall the application of 'best available control technology' result in emissions ... which will exceed the emissions allowed by an applicable standard established pursuant to section 111 or 112 of this Act." (Emphasis added)

BACT Process History

- This void in process has been “filled in” over the years by guidance and policy.
- IMPORTANT: No guidance, early or more recent, has been taken through formal rulemaking
  - 1996 NSR reform proposed rule included adoption of “top-down” but subsequent rulemakings have not
- All guidance is just that

BACT History

- Guidelines
  - 1978 BACT Determination Guidelines
  - 1980 PSD Workshop Manual
  - 1990 DRAFT NSR Workshop Manual (The Infamous “Puzzle Book”)

BACT – Top-Down Process

- Step #1 – Identify Control Options
- Step #2 – Technical Feasibility
  - Availability, Applicability
- Step #3 – Rank Remaining Control Options
- Step #4 – Consider
  - Environmental Impacts
  - Economic Impact
  - Energy Impacts
- Step #5 – Select BACT and set limit

BACT "Top Down" Step 1 Identify Control Options

- Includes:
  - Technology transfer
  - Foreign technologies
  - Innovative technologies
  - Inherently lower-polluting processes
  - Control strategies that are combinations of listed control options

BACT "Top Down" Step 2 Technical Feasibility

- From 1980 Workshop Manual
  - "A technically feasible control strategy is one that has been demonstrated to function efficiently on identical or similar processes."
- From 1990 Manual
  - Two key concepts:
    - Availability
    - Applicability

BACT "Top Down" Step 3 Ranking of Options

- Ranking is based solely on achievable emission reduction for the pollutant in question
  - Other considerations arise elsewhere
- Relatively non-controversial step
- But, heavily dependent upon results of the often controversial Step 2 Technical Feasibility Determination

BACT "Top Down" Step 4
Environmental, Economic, Energy Impacts

- What types of environmental impacts should the applicant consider?
  - Water
  - Solid Waste
  - Air

BACT "Top Down" Step 4
Environmental, ***Economic***, Energy Impacts

- Concept – the most stringent control option is selected unless the use of that option results in an "adverse economic impact" that, with other impacts, warrants rejection (1990 NSR Manual, pp. B.31 to B.46)
- Need to understand two concepts
  - How to calculate costs
  - What is an adverse economic impact

BACT "Top Down" Step 4
Environmental, Economic, ***Energy*** Impacts

- Statute, Regulation, Guidance all require consideration of energy impacts associated with controls
- This area has the least guidance
- Energy considerations typically overlap with economic and environmental impacts.

BACT "Top Down" Step 5 Establishing BACT

- BACT "...means an emissions limitation..."
  - Note: Regulation allows a design, equipment, or work/operational practice if technological or economic limitations make a measurement methodology infeasible

Top-Down BACT History

- EPA 6/25/1990 letter:
  - "The top-down approach is an analytical procedure (not a rule) for States and sources to use to ensure that the statutory requirements of BACT are met."

BACT for Minor NSR

- Same process but …
  - Smaller and simpler sources involved
  - Abbreviated process in most cases
  - The majority of our BACT analyses
- More stringent than many states (for minor sources)

BACT Summary

- Case-by-case analysis
- Site specific
- Multi-factored analysis
  - Economic, energy, environmental, etc
- Top down approach is not required; it is just one way
- NSPS and NESHAP/MACT acts as floor

THE END